

We claim:

1. An asymmetric satellite based terminal device configured to receive Internet data from a satellite using a standard TCP/IP stack.

5 2. The asymmetric satellite based terminal device of claim 1 including a personal computer having a modem, an expansion card based satellite receiver, and an operating system, the operating system including the standard TCP/IP stack, a first driver configured to access the expansion card based satellite receiver, and a second driver configured to access the modem, wherein the first driver is further configured to route data received from the satellite receiver card to the standard TCP/IP stack and the second driver is further configured to route data from the standard TCP/IP to the modem via the second driver, whereby asymmetric satellite communications is enabled.

10 3. An asymmetric satellite system comprising the asymmetric satellite based terminal device of claim 1, a network operations center located at a distance from the asymmetric satellite based terminal device, and an Internet having a plurality of remote hosts wherein the second driver is configured to web page request data to the remote hosts with a return address of the network operations center.

15 4. The asymmetric satellite system of claim 3 wherein the network operations center is configured to encapsulate data output to the asymmetric satellite based terminal device from the network operations center in MPEG II packets.

20 5. The asymmetric satellite system of claim 4 the data includes WEB pages.

25 6. An asymmetric satellite system comprising a network operations center, an Internet having a plurality of hosts, and a terminal device located at a distance from the network operations center and configured to utilize an IP address belonging to the network operations center such that access across the Internet are returned to the network operations center.

30 7. The asymmetric satellite system of claim 10 wherein the terminal device includes a personal computer having a modem, an expansion card based satellite receiver, and an operating system, the operating system including the standard TCP/IP stack, and an application program for assigning the IP address as a return address of

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the terminal device, wherein the terminal device is configured to issue requests for web pages with a return address of the network operations center.

8. An asymmetric satellite based terminal device configured to utilize an IP address belonging to a network operations center.

5 9. The asymmetric satellite based terminal device of claim 12 including a personal computer having a modem, an expansion card based satellite receiver, and an operating system, the operating system including the standard TCP/IP stack, and an application program for assigning the IP address as a return address of the asymmetric satellite based terminal device, wherein the asymmetric satellite based
10 terminal device is configured to issue requests for web pages with a return address of the network operations center.

15 10. A network comprising: a satellite, an Internet, a network operations center coupled to the Internet and configured to provide uplink data to the satellite responsive to data received via the Internet, and an Internet service provider network having a cache facility and a slave reader for downloading data from the satellite to the cache facility, a router and a plurality of modems, at least a first connection via the router and the modems being configured to be coupled to an symmetric Internet user and at least a second connection via the router and the modems being configured to be coupled to an asymmetric Internet user having a
20 satellite receiver, wherein the cache facility outputs data to both the symmetric and asymmetric Internet users responsive to requests.

25 11. A network comprising: a satellite, an Internet, a network operations center coupled to the Internet and configured to provide uplink data to the satellite responsive to data received via the Internet, and an Internet service provider network having a cache facility and a slave reader for downloading data from the satellite to the cache facility, a router and a plurality of modems configured to receive requests from a plurality of users and to transmit data, responsive to the requests, back to the users, the cache facility receiving cache updates from the satellite responsive to user requests.

30 12. The network of claim 15 wherein the slave reader includes a filter for filtering data downloaded from the satellite.

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13. A network comprising: a satellite, an Internet, a network operations center including a master cache and a master reader indexing data in the master cache, the network operations center being coupled to the Internet and configured to provide uplink data to the satellite responsive to data received via the Internet, and an Internet service provider network having a slave cache facility and a slave reader for indexing data in the slave cache, for downloading data from the satellite to the slave cache facility and for coordinating with the master reader over the Internet to periodically update the slave cache via data received from the satellite.

14. The network of claim 17 wherein the master reader includes a filter data which is downloaded to each of the Internet service providers to control the filtering of data downloaded via the satellite.

15. A method comprising mirroring Internet data including web data in a master cache of a network operations center in an asymmetric satellite based system.

16. The method of claim 21 including coordinating requests for web data between a slave reader in an ISP and a master reader in a network operations center.

17. A method comprising using a hierarchical cache structure in an asymmetric satellite system.

18. A method comprising distributing cache data on an asymmetric satellite system to a plurality of slave caches using multicasting.

19. The method of claim 24 wherein multicasting includes multicasting to a plurality of slave caches located in each of a plurality of Internet service provider networks.

20. A method comprising configuring an Internet service provider network to maintain a cache table of a remotely located master cache and to receive data from the remotely located master cache via asymmetric satellite transmissions responsive to user initiated requests.

21. A method of managing a multicast server located at a central location comprising utilizing a plurality of multicast management stations located at remote locations to control distribution of multicast data from the multicast server.

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22. The method of claim 27 wherein the multicast server includes utilizing a supervisory program to limit control functions available to the plurality of multicast management stations.

23. A method of operating an asymmetric Internet access system comprising configuring an Internet service provider network to process a token assigned to an individual user and to dynamically assign IP address of a Network Operations Center to the individual user irrespective of whether the individual user has a user ID and Password assigned to the Internet service provider wherein users may roam among different Internet service providers while keeping the same user name and password.

24. A method comprising configuring an Internet service provider to return data requested by users from resources which are connected to a first hop via terrestrial links and to return data requested by the users from resources which are connected to a second hop via a satellite link.

25. A cable system comprising a cable distribution network including a plurality of remote Internet user terminals and a cable head-end comprising an asymmetric satellite based proxy server having an Internet connection and satellite connection, and a cache coupled to and providing data to the proxy server, wherein the proxy server is configured such that web requests initiated by one of the remote Internet user terminals may be returned either via the Internet connection or via the satellite connection.

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